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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,960	08/17/2001	Vishnu K. Agarwal	M4065.0151/P151-A	2287

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EXAMINER	
DOAN, THERESA T	

ART UNIT	PAPER NUMBER
2814	

DATE MAILED: 11/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/930,960	AGARWAL ET AL.	
	Examiner	Art Unit	
	Theresa T Doan	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

1)☒ Responsive to communication(s) filed on *15 September 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-15,17-54,124 and 125* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-15, 17-54 and 124-125* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a)☐ All b)☐ Some * c)☐ None of the CERTIFIED copies of the priority documents have been:

1.☐ received.

2.☐ received in Application No. (Series Code / Serial Number) _____ .

3.☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

15)☐ Notice of References Cited (PTO-892)
16)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18)☐ Interview Summary (PTO-413) Paper No(s). _____ .
19)☐ Notice of Informal Patent Application (PTO-152)
20)☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Okutoh et al. (6,201,271) as previously cited.

Regarding claim 1, Okutoh et al. teach in figure 8 a capacitor, comprising:

an electrode having at least one layer comprising a platinum-rhodium material 20 and at least one non-oxide layer comprising a platinum material 22 on top and in **electrically** contact with the platinum-rhodium layer 20, wherein the layer comprising platinum-rhodium 20 comprises approximately 3 to approximately 40 percent rhodium and approximately 60 to approximately 97 percent platinum (column 9, lines 1-2).

Regarding claim 14, Okutoh et al. teach in figure 8 a capacitor, comprising:

a lower electrode comprising at least two layers, the first layer comprising a platinum-rhodium material 20 and a second non-oxide layer comprising a platinum material 22 on top of the platinum-rhodium layer 20, wherein the layer consisting of

platinum-rhodium is an alloy comprising approximately 3 to approximately 40 percent rhodium (column 9, lines 1-2).

an upper electrode 24; and

a dielectric layer 23 of a ferroelectric or high dielectric constant dielectric material formed between the lower and upper electrodes, wherein the dielectric layer 23 is in contact with the platinum layer 22 of the lower electrode (column 8, lines 26-42).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 124-125 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okutoh I (6,201,271) in view of Okutoh II (6,180,974) as previously cited.

Regarding claims 124, Okutoh et al. teach in figure 8 a capacitor, comprising:

an electrode having at least one layer comprising a platinum-rhodium material 20 and at least one non-oxide layer comprising a platinum material 22 on top of and in contact with the platinum-rhodium layer 20, wherein the ratio of platinum-rhodium layer 20 is 80:20 (column 9, lines 1-2).

Okutoh I (6,201,271) does not teach the layer comprising platinum-rhodium material comprises approximately more than 20 percent rhodium as recited in claim 124 or less than 10 percent rhodium as recited in claim 125.

Okutoh II (6,180,974) teaches the layer comprising platinum-rhodium 208 that the content of rhodium in platinum-rhodium layer 208 is 80% or less (see figure 14, column 26, lines 29-30) or another embodiment that the ratio between the platinum-rhodium is 90:10 (column 10, lines 5-6). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to form the layer comprising platinum-rhodium material comprises approximately more than 20 percent rhodium as recited in claim 124 or less than 10 percent rhodium as recited in claim 125 of instant invention in Okutoh's structure, since it has been held where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corporation of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed, Cir. 1985).*

Furthermore, a layer comprising platinum-rhodium material comprises approximately more than 20 percent rhodium as recited in claim 124 or less than 10 percent rhodium as recited in claim 125 as claimed would have been obvious, since it has been held when the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Aller, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955). Applicant can rebut a prima facie case of obviousness based on overlapping ranges by showing unexpected results or the criticality of the claimed range. "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claim. In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected

results relative to the prior art range." In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP 716.02 - 716.02(g) for a discussion of criticality and unexpected results.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-54 and 124-125 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-54 of U.S. Patent No. 6,297,527. Although the conflicting claims are not identical, they are not patentably distinct from each other because as follows: both U.S. Patent and instant application claimed multiplayer electrode for ferroelectric capacitors. Moreover, the claims 1, 14 and 38 in the U.S. No. 6,297,527 are either narrower version of the claims of the instant application or obvious variations thereof. For example, claim 38 in U.S. No. 6,297,527 "the layer consisting of platinum material of the lower electrode" whereas claim 38 in the instant application claims "...a non-oxide layer comprising platinum

material", that shows no different meaning between these two elements. The facts are "the layer consisting of platinum material" is equivalent as "a non-oxide layer comprising platinum material".

Response to Arguments

7. Applicant argues that "Okutoh I does not teach an electrode having at least one layer comprising platinum-rhodium material and at least one **non-oxide layer** comprising a platinum material form on top and **in contact** with the platinum-rhodium layer," as recited in claim 1 and "a **lower** electrode comprising at least two layers, the first layer comprising a platinum-rhodium material and a second **non-oxide** layer comprising a platinum material on top of the platinum-rhodium layer" as recited in claim 14. The argument is not persuasive because Okutoh I teaches in figure 8 a capacitor, comprising: an electrode having at least one layer comprising platinum-rhodium material 20 and at least one **non-oxide layer** comprising a platinum material 22 form on top and **in electrically contact** (emphasis added) with the platinum-rhodium layer; "a platinum material 22 form on top and **in contact** (emphasis added) with the platinum-rhodium layer" does not necessarily mean that the platinum material 22 must be in direct contact with the platinum-rhodium layer 20 (see figure 8). In other words, depositing the platinum material in **direct contact** with the platinum-rhodium layer **is not specified** in the claims. Therefore, the platinum material 22 of Okutoh I is seen to meet the broad scope of the present claims.

8. Applicant also argues on pages 11-12 that "Applicants respectfully disagree with the Office Action's contention that the claims of this case are obvious over the claims in Agarwal". The argument is not persuasive because claims 1-54 of U.S. Patent No. 6,297,527 and the claims 1, 4-15, 17-54 and 124-125 of the instant application are not patentably distinct from each other because both sets of claims describe substantially identical structure. Even though, Applicant amended claims, for example in claims 1 and 14, by replacing "comprising" with "consisting of" or "non-oxide", but the double patenting rejection is still applicable to the amended claims.

The rest of applicant's arguments, addressed to the amended claims are considered in the rejections shown above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa T Doan whose telephone number is (703) 305-2366. The examiner can normally be reached on Monday to Thursday from 8:00AM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WAEL FAHMY can be reached on (703) 308-4918918. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TD
November 21, 2003.

PHAT X. CAO
PRIMARY EXAMINER